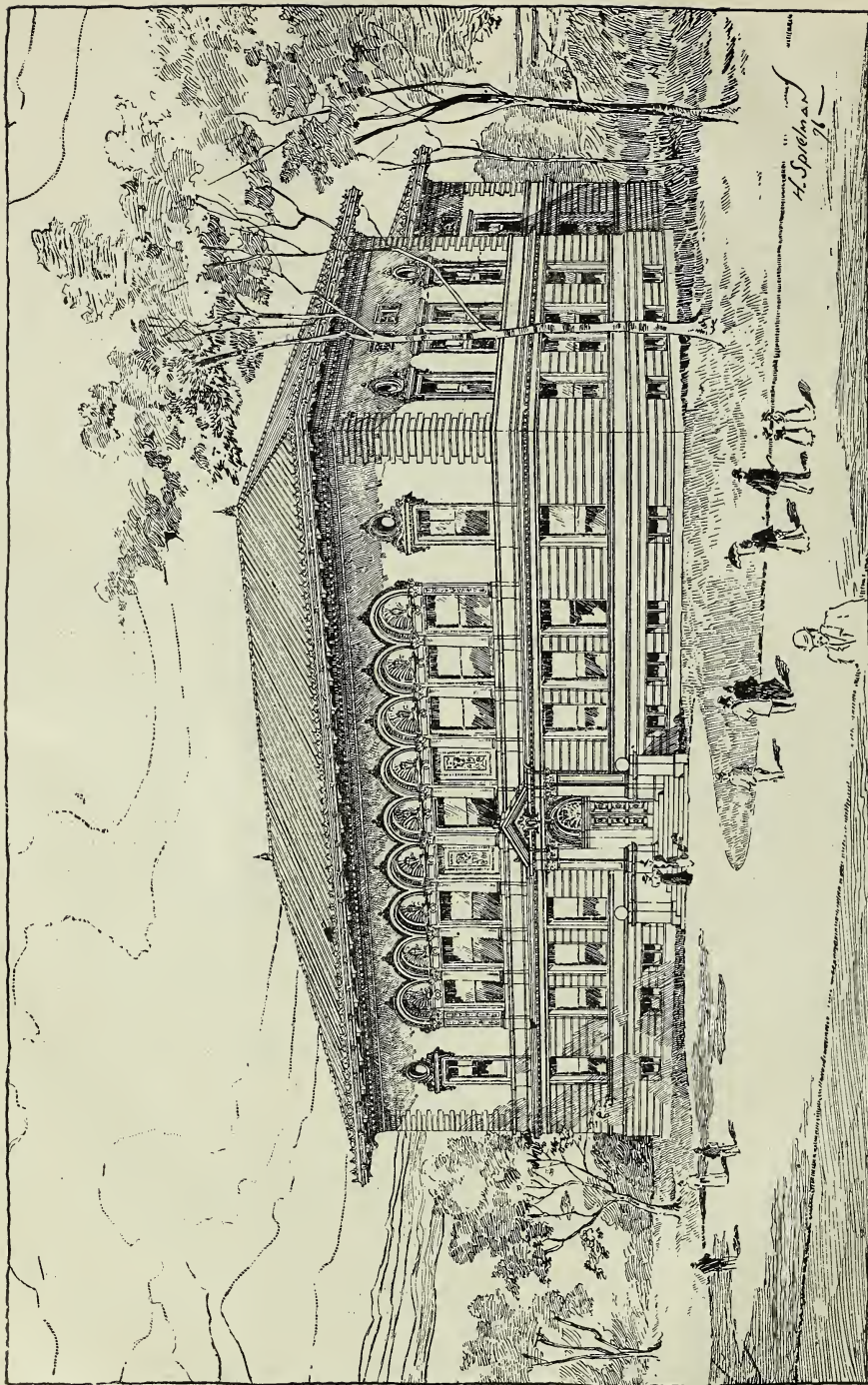


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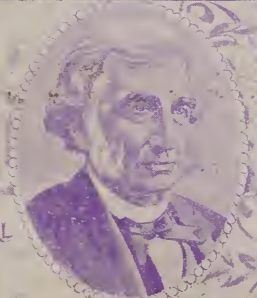
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Vol. IV.

SEPTEMBER, 1897.

No. 1.

THE AGRICULTURAL STUDENT



J.S. MORRILL



N.S. TOWNSHEND

A MONTHLY MAGAZINE DEVOTED TO AGRICULTURAL EDUCATION.

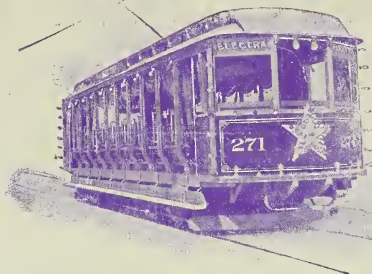
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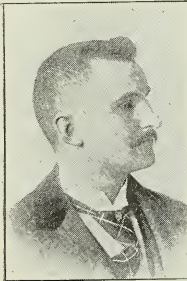
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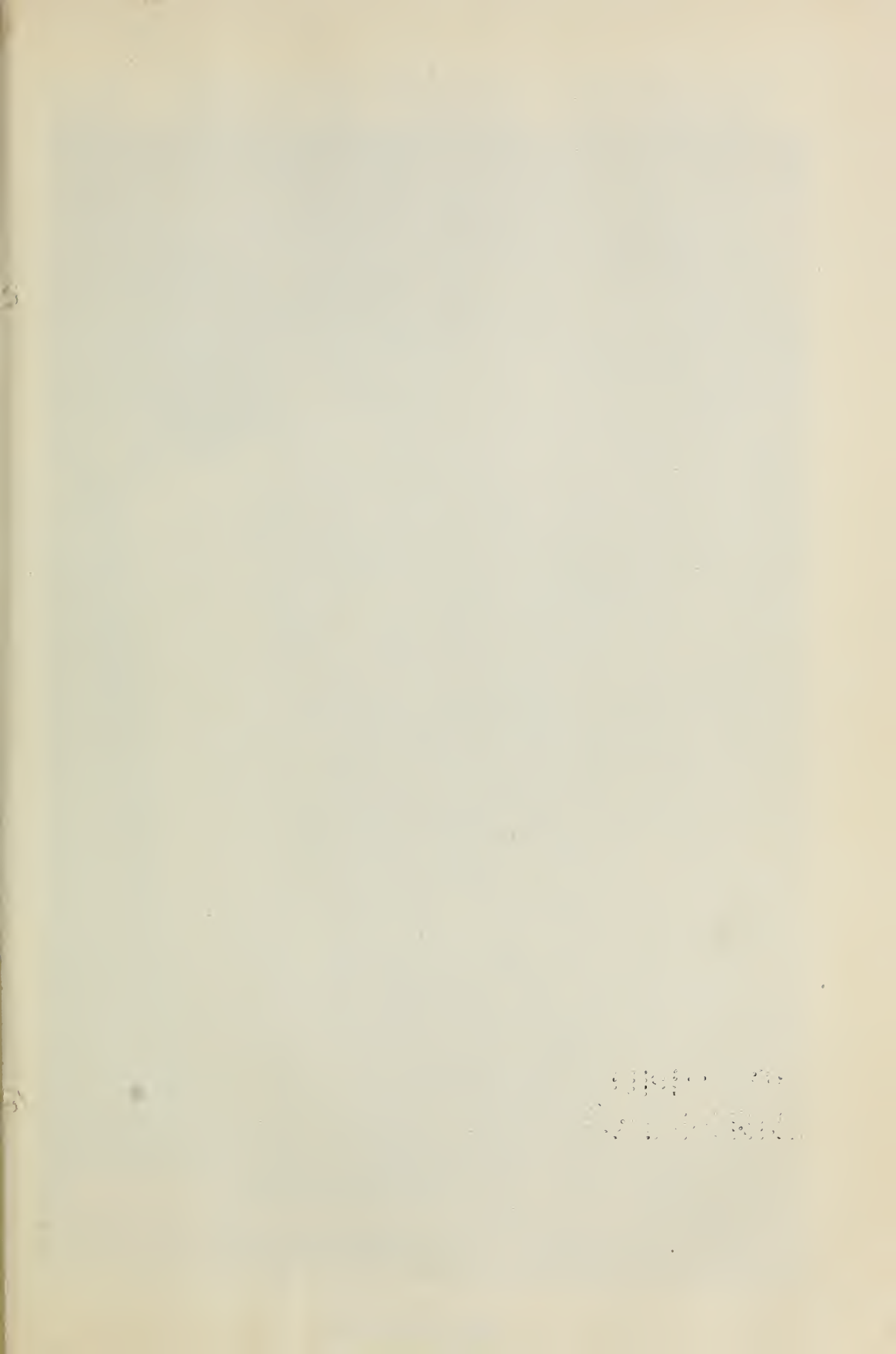
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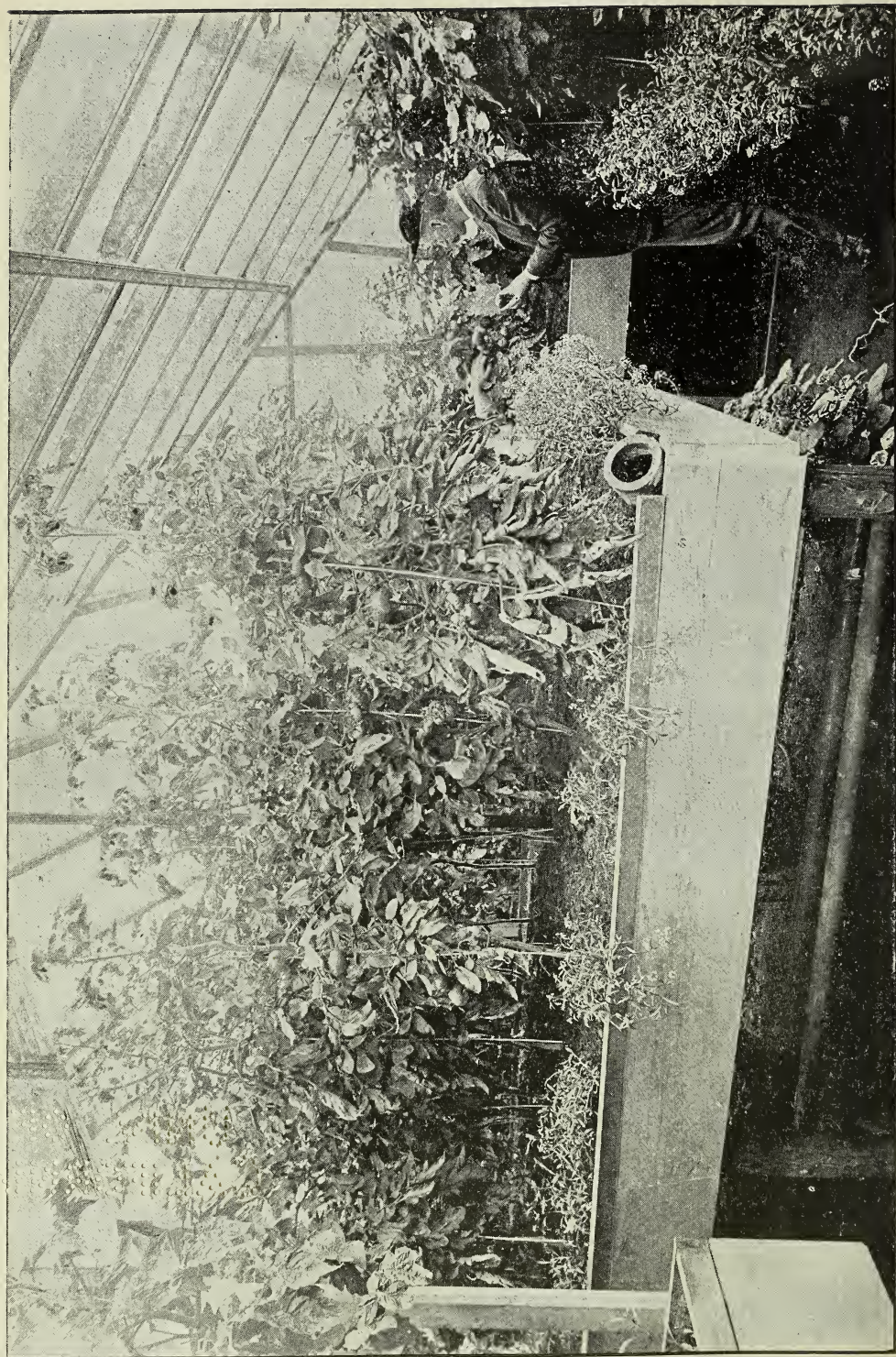
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THE AGRICULTURAL STUDENT.

VOL. IV. OHIO STATE UNIVERSITY, COLUMBUS, SEPT., 1897. No. 1.

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EDITORIAL CHAT.

With this issue, the Agricultural Student becomes a "four-year-old," with a large and appreciative body of readers and a good advertising patronage. When we increased the size of the paper, at this time last year, we said the Student was a success, and in our new form this year we reiterate with emphasis. While other journals have been growing thinner and some have been "laid on the shelf" during the hard times of 1895-'97, the Student has had a healthy, vigorous growth.

We take this occasion to thank our many friends for all they have done, trusting that they will be paid by the better things we shall be able to do for them in 1897-'98. A good word now and then will bring us many new subscribers and help us to carry out our ambition to place the Student on the top shelf of usefulness.

A few words more. Don't forget our advertisers. The man who does not go over the pages devoted to advertising every issue is making a mistake. The advertising pages of our journals are great educators, and often the best part of them.

It is a good plan to read the advertisements of a periodical as carefully as the subject matter; the reader will find such matter profitable as well as interesting. Many business men make a mistake by not advertising, and many readers make a mistake by neglecting

to read the advertisements of a paper carefully.

So far as we know, all the advertisements in the Student are reliable, and we ask you to read and answer all which promise to be a benefit, or which offer something which will add to your comfort and pleasure. When you do write, always state that you saw the ad. in the Agricultural Student. Now, a brief contribution, please; a bit of help, due attention to our advertisers, and with "a long pull, a strong pull, and a pull altogether," we will have a magazine during 1898 that will go a long ways toward helping us in attaining that success to which we all aspire.

The fall term of the Ohio State University begins Wednesday, September 15th, 1897. During the last few years the entire University has been becoming better, and the number of students has been increasing, and it is to be hoped that the coming year will not prove an exception to this rule. The College of Agriculture and Domestic Science has made marked advances in many ways, and is fast coming to the front as the most advanced and complete department of the University.

Townshend Hall, the future home of agricultural education in Ohio, is nearing completion, to become the finest building of the kind in the land. When Townshend Hall is completed, the departments of agriculture and agricultural chemistry will immediately occur-

py the building. This will give much needed room to the department of Horticulture and Forestry, and allow much more practical and experimental work than has hitherto been possible, thus making a better and more pleasant arrangement for all, as up to this time both of these departments have had to be accommodated in the one building. All in all, the coming year promises to be one of great progress in the College of Agriculture and Domestic Science.

The Agricultural Student begs to acknowledge the receipt of The Gentleman Farmer, a ninety-six page, illustrated magazine, published by The Brother Jonathan Publishing Company, of Chicago. From cover to cover it is a work of art, both in its illustrations and reading matter. From an editorial standpoint it is exceptionally strong; all public questions are discussed with a boldness that challenges attention. It is in no sense a "trimmer." Public questions and public men are discussed without fear or favor. The Gentleman Farmer has its own corps of artists and writers, and while it deals with all high-class illustrative subjects, both foreign and national, it makes a special study of the American farm. Its writers, who are men of acknowledged ability, are given the widest possible latitude in the discussion of all political, social and economic questions. It is neutral upon no question of interest to the American people. Although it has been in existence but a little over six months, its subscription list has grown so rapidly that the publishers have been able to reduce the price from \$1.50 to \$1.00 per year. It is a magazine that should be found in every farm library.

The growing power of the University renders necessary new means of utilizing this power and of making it available to those patrons who cannot come so closely into contact with it as do its students and professors. This growing power also demands an outlet for its

force for its own sake. At present there is no means of acquainting the public with the large amount of original work done by the different departments. Some of it finds its way into print, where it serves the University little or no good, and frequently at so great an expense to the publisher that many investigators are deprived of the privileges of publication. This is true pre-eminently of the departments doing scientific work. The time has certainly come in the growth of the University when there should be a suitable scientific magazine published to give each department doing scientific work an opportunity to give the public the benefit of its work. We are about the only University in the country of our scientific standing that has not some means of publishing its original work. We need a quarterly so arranged that each department can have sufficient space for major articles and notes from sermons and clubs in connection with it. Such a magazine could be the official organ for such organizations as the Biological Club, Chemical Society, Engineering Society. The summer number could be devoted to theses worthy of publication in abbreviated form. And not least of the reasons for the existence of such a magazine are the purposes of advertising. Nothing puts a school before the public so prominently as such a magazine. There is at least one college in this state with scarcely any scientific equipment to speak of, and yet is it widely and favorably known on account of a well-edited scientific magazine.

There is a great deal of valuable material that the University ought to publish in order to do itself justice. The time is really ripe now for such a magazine, and if once started there would be no trouble about its support.

GLIMPSSES OF NATURE.

Who doesn't love the trees? The small and the large, the aged and the young? But there is one that has a

stronger personality than all others. Trees are like persons. Some of them are proud, stuck-up, and are particular where they are and what they do. They want to get the snappy jobs, the easy places to work. But there is the yellow locust, how like some men, silent, unselfish. What others will not do, where others will not live or grow because it is hard, undesirable, perhaps unpopular, the locust covers the barren places; and the desolated and exhausted soil soon finds its body permeated with roots and itself covered with a roof of green. Other trees have left this soil, and with no vegetation, the blazing sun has seared and blistered the earth. But this unselfish benefactor comes forward and soon fills the saddened air with clusters of cream bells, and who does not enjoy their rich perfume?

The oak, the elm, the beech, the ash—these are grander looking, smoother skinned, fairer color, perhaps better bred, but do they send into the air sweet perfume to the soul of their Maker; do they go where they have to toil and labor and sweat that they might live, and that posterity might be benefited? No, they have choicer palates. Their drink must be strained through a richer and deeper soil. Their gayety, their joyous times, will not permit them to so labor. Their works are unto themselves. They have no tribute to render, and their perfume, alas, is only the escaping odor from the bees that have perfumed their breath on some unselfish producer. Passing by through the fields, what careless observer would notice this homely locust. I'll call him the farmer-tree. But then when the analysis is made, when the roll is called, and the questioner, the Universal One, points the finger and in reverent tones asks, "Where is your tribute?" then the yellow locust—the farmer—will stand out, the rich perfume from the bell-cup blossoms, the emblem of the tribute bearer of a struggling world to the silent stars.

But is this not the way after all? It seems strange, but yet true as truth itself, that flint and clay bring the blossoms; that sweetness is the perfume of toil and trial; that the neglected spots of life rest under the blossoms; that sorrow garners up the soul-cells of sweetness and tosses them back to a yearning world; that the life is sweetest and noblest whose trials and cares are greatest and whose days are best lived.

The locust—the farmer—the silent hero of the world, thy judge knows thy worth.

EDUCATION FOR WOMEN.

Courses in Domestic Science.

The Ohio State University, in establishing a course in Domestic Science, is bringing the benefits of science to the home. No one can so well appreciate the meaning of the opportunity to study Domestic Science as the thoughtful and intelligent woman who has discovered the place that Domestic Science should have in the every-day duties of the household and who laments the lack of women today who are equipped either for the pleasure or the efficiency of science in that place.

The liberal culture which this new curriculum is designed to supply, will provide a young woman with as much knowledge of breadmaking as of Shakespeare. She may know the chemistry of fruit preserving, and that not at the expense of French. The need of history is not overlooked, while provision is being made for drawing and in the longer course for house-designing—an attraction for which any healthy-minded girl will not deny a craving. Notwithstanding the constant opening of new lines of work for women, the home is not going to be deserted. Nothing is to be said against the noble callings—best defined, perhaps, as business callings—in which many women are doing such worthy work; but in the breadth of American womanhood there is enough energy and ability to meet all the demands made upon it, and the home will not suffer

save in the absence of training needed for its best welfare.

It is, perhaps, a fairly new idea, which assumes it to be as high an order of intellect which deals with the relative food values of meat and milk as that which can make a technical comparison of Homer and Pindar. The work of the chemical and other laboratories, which is provided for in ample measure, cannot fail to give a young woman much practical knowledge, and incidentally manual dexterity. It also gives her an appetite for science reading that will keep her in close pursuit in her after-life of the best thought and writing published.

The particular gift which the world awaits from the hand of Domestic Science, is a solution of the old-time problem of properly-balanced foods—the proportions of muscle-making, fat-producing or heat-furnishing elements adapted to the best bodily conditions, and the combinations of the foods which supply these proportions. In the future, industrial exhibits—specimens of work—may include typical meals for factory, farming and office employes, and model dietaries for convalescents from typhoid fever. They will appeal to the public intelligence far more than a fac simile of the Cologne Cathedral done in chocolate icing as a cake decoration.

Not only the housing and nourishing of the family is provided for in these courses in Domestic Science, but their proper clothing also. Lectures on the production and manufacture of cotton, wool, flax, silk, etc.; the choice and treatment of various materials; study of line, form, color and texture, as applied to dressmaking and millinery accompany the practice in these arts.

In designing the courses in Domestic Science, the need of every woman for the most liberal culture in connection with technical training has been recognized. The "new woman," which is the logical product of this education, will be one of enough culture to have an in-

telligent interest in all matters which engage the advanced thought of the time. She will have learned not to fear difficult mental tasks and will know also that no work is too humble to be dignified by intelligent treatment. Possessed of both calling and culture, she will be a new woman of enlarged power and place, and no hand shall be raised against her.

STOCK JUDGING.

The study of types, both ideal and otherwise, and the significance of certain forms for certain purposes is of prime importance to the student of animal industry. The eminently successful stockmen and breeders must possess the artistic instinct, for he must be able to picture in his mind the true ideal which he is seeking. He must also be a man of judgment, for he must be able to calculate the probabilities as to the result in mating two types or individuals to bring about the ideal which he seeks. The students in the live stock classes of the colleges or departments of agriculture of the universities are first taught what constitutes fitness for a purpose and the reason therefor, and second, his eye is trained to detect defects, and his judgment trained to interpret the relative importance of the several defects which an animal may possess. The purpose of the score card, which is used by the student, is to call his attention, step by step, to the several points of an animal so that none may escape his attention; to explain to him what constitutes beauty in each point, and to show him the relative importance of the several points of an animal. The illustration which we use in this issue is of a class of twenty-three young men taking their first lesson in scoring a Jersey heifer on the farm of the Ohio State University. This is from a photograph taken last fall. The interest taken by the students in this work and the rapidity with which they become competent judges, is extremely gratifying. This is illustrated by an anecdote told by Professor Hunt in an address before the Ohio State Farmers'

and Breeders' Institute last winter: "Thirty students of the University judged six cows from the herd of a leading stockman of this state. After the students were through, he told me that he would sooner risk his cattle in the hands of those students than in the hands of any of the judges at the eight county fairs at which he showed his cattle this season. Yet most of these students had had but two lessons in judging this particular class of animals, in addition to a couple of lectures upon the subject."



When the eye and judgment has been thoroughly trained, the student may lay aside the score card and form his opinions without its immediate aid. There is great need of better judges of live stock. A stream cannot rise higher than its source, and the live stock of the country cannot be better than the ideals of the breeders who produce them.

Nearly every man who drives a horse or keeps a cow prides himself on his judgment in such matters, while in fact very few men are competent judges. This is partly due to the bond of sympathy which almost invariably arises between the owner and the animal, which blinds him to the defects which he might otherwise see, as well as to that element in human nature which is popularly known in this country under the name of jingoism, and partly to the fact that

his ideas of what constitutes points of beauty are not founded upon well-established reasons, but are often founded upon caprice or prejudice, and sometimes upon the artist's idea of beauty of form.

RURAL SCHOOLS.

One of the most significant events of recent times in educational circles is the report of the Committee on Rural Schools, which was read before the last meeting of the National Education Association. The attention that this report received at the hands of the convention and the impression that it has made upon the public, are encouraging signs. Much attention has been given to the improvement of the city schools while comparatively little has been given to the rural schools, although they are in many senses the most important. This report is the work of a committee of twelve, to whose aid has been called many other eminent educators. The committee has spent two years in the preparation of its report, which covers 225 pages, including the very valuable appendices. We are glad to be able to state that the complete report can be obtained from the chairman of the committee, Professor Henry Sabin, Ames, Iowa, by sending 25 cents. For the benefit of some who may not have access to the report, we give a few abstracts.

The numbers engaged in the principal occupations in the United States, according to the latest United States census, were as follows:

Farm and garden.....	3,375,979
All professions.....	944,323
Domestic and personal service.....	4,360,506
Trade and transportation...	3,325,962
Manufacturing and mechanical industries.....	5,091,669

In behalf of all these occupations, except the professions and agriculture, the claim has been made, and has been allowed, that special instruction in their interests be made an important part of

the school curriculum—in commercial courses; in cooking; in manual training—on which such vast sums have been expended. Indeed, for many of the professions, much of the school instruction is a direct preparation.

Much is said of the necessity for considering the environments of the child; for bringing into his school life the thoughts and interests of his home life, that the school may not prove to him a thing remote and foreign; of making the school a recognition of his past and a preparation for his future. Little sign of this can be found in the ordinary rural school. The rural school should aim especially to make country life more attractive and beautiful and should pay more attention to rural industries. Every Normal school should have, as a means of instruction, a school garden, planned and conducted not merely to teach the pure science of botany, but also the simple principles of applied science of agriculture and gardening; and every rural school should also have its garden, through which the training of the Normal school may reach the home. Other countries have led the way. The school garden is common in the countries of Europe most advanced in popular education. A school garden and the nursery of fruit trees are features of the Normal schools of France; there is a course of agriculture in the Normal schools for men, of horticulture in the Normal schools for women. The instruction received in the Normal school is supplied in the school garden of the rural school.

Statistics show that in cities of the United States containing over 8,000 inhabitants, there is expended over \$20 for each pupil in attendance, while in all other schools less than ten dollars per pupil is expended. It is evident that the first condition of good rural schools is a sufficiency of funds with which to provide them.

Public education is a state function, and the whole state is responsible for the education of the youth of the state.

Distribution, according to the school census or enumeration, is open to a serious objection, viz., it does not carry the money where most needed. Taking everything into account, the sub-committee on school maintenance is inclined to think that a fixed sum or sums based on an arbitrary unit or units, is most equitable. The sub-committee does not believe it possible to invent any rule of distribution which will well accomplish the purpose of taxing large units for the benefit of small ones unless it rests on the school or the teacher as a unit, with the necessary qualifications.

The difference in the working of the school census method and the fixed-sum method of distribution is well shown by comparing the statistics of two states. For the fiscal year ending November 15, 1895, the mill tax of Ohio produced \$1,720,922. Of the eighty-eight counties, forty paid more into the fund than they received from it, while forty-eight paid less than they received. Some of the major counties of the state received more from the fund than they paid into it, while minor counties paid more than they received. For the year 1896, the city of Cleveland actually received \$2,616.67 more from the state than it paid to the state. Assuredly, a rule that makes the agricultural counties of Ohio, or many of them, contribute to the education of Cleveland, the most populous city in the state, is a travesty of common sense. But the same year Cincinnati paid in round numbers \$70,000 more than it received. This is hardly better than repealing the mill tax outright, and letting the burden of education fall directly upon the cities and townships. On the other hand, the state of New York in 1896 paid a total general school tax of \$4,062,903, of which \$3,500,000 was immediately distributed to the counties again. Fifty-four of the sixty counties received more from this tax than they contributed to it; only six counties paid more than they received. Erie county

paid \$241,597 and received \$135,460; while the corresponding figures for Kings and New York counties were \$503,603 and \$387,879, and \$1,884,584 and \$636,133 respectively. The New York rule does bring the strong to help of the weak.

For the purpose of organization, maintenance or supervision, nothing should be recognized as the unit smaller than the township or the county. The school district is the most undesirable unit possible. Not only is this the suggestion of common sense, but it is the teaching of experience as well.

In those parts of the country where existing physical and social conditions render it practicable, there should be such a consolidation of rural schools as will diminish the existing number of schools, school houses and teachers, and bring together, at advantageous points, the pupils who are now divided and scattered among the isolated schools of the township or other similar district. This step should be taken in the interest of good education as well as of public economy. To make this reform possible the children, as far as necessary or practicable, must be conveyed to and from the school houses at public expense.

This movement began in Massachusetts and has reached every one of the New England states and spread beyond New England. In these states many hundreds of schools have been consolidated, and with the most gratifying results. Occasionally an unsatisfactory experiment has been reported, but the great stream of testimony runs strongly the other way. Longer school terms, better teachers, better grading, better instruction, more interest in the pupils, greater physical comfort on the part of the children, better supervision—these are claims that are made for the new

departure. Other things being equal, the new way is no more expensive than the old one, and often it is less expensive. The matter of improved roads enters incidentally into this discussion as having great bearing on the question of transporting children to central points for school purposes.

There is no agency in our school system that has done so much for the improvement of our schools in organization, in methods of instruction and description as superintendency. Expert supervision has resulted in systematic, orderly, well-directed instruction. If supervision through a competent superintendent is a good thing for city schools, there is every reason why it would be a good thing for rural schools.

Attention is called to the danger of attempting to classify the rural school in imitation of the city school. There is no doubt that the abuse of classification is the crying evil of the schools of villages and small cities.

Besides arithmetic, geography, literature, grammar and history, there are collateral branches that each school should include—some of them information studies, such as oral courses in the sciences, and in history, and in the arts—others of the nature of discipline or arts of skill, such as vocal music, gymnastics, manual training, the art of cooking, and some special attention to the elementary principles of the useful arts practiced in the neighborhood of the school, namely, farming, horticulture, grazing, mining, manufacturing or the like (Appendices G and H). In general, these collateral branches should relate to the pupil's environment and help him to understand the natural features of that environment as well as the occupations of his fellow-men in the neighborhood.

If people generally knew how much better schools they might have than those which they do now have, and for no more cost, it is impossible to believe that they would not bestir themselves to effect reform.

AGRICULTURE AND THE CIVIL SERVICE.

The United States Department of Agriculture has brought its employes more fully under the operations of the civil service law than probably any other arm of the government. It has also classified its employes and proposes to fill the higher positions in the service by promoting men from subordinate positions who have shown themselves worthy of such advancement. The department is attempting to make the positions of its service so attractive to educated young men that graduates of the Colleges of Agriculture will be induced to accept the minor positions with hope and assurance of promotion if they prove themselves worthy. On June 16th and 17th the following students of the College of Agriculture of the Ohio State University took the civil service examination for assistants in the Department of Agriculture: H. C. Price, Newark, Ohio; Philip Baer, jr., Canal Dover, Ohio; J. F. Cunningham, Urbana, Ohio; H. H. Loomis, Deerfield, Ohio; A. W. Nettleton, Medina, Ohio; F. S. Johnston, Columbus, Ohio.

Apropos to this subject, Secretary Morton makes the following recommendation in his last annual report, which the Agricultural Student commends to the attention of the executive committee of the American Association of Agricultural Colleges and Experiment Stations:

"In the future, may it not be possible for an arrangement to be made, in accordance with law, between the presidents of agricultural colleges and the directors of experiment stations on the one hand, and the United States civil service commission on the other, by which the certificates of the former as to industry, ability and character will permit their graduates, under the direction of the

Secretary of Agriculture, to enter the service without competitive examinations? If a reasonable construction of existing law permits those who have devoted years of study at experiment stations and agricultural colleges, and thus made themselves especially skilled and expert in specific lines of investigation, to enter the scientific bureaus and divisions of the United States Department of Agriculture after a rigid examination by their preceptors and certification by them as to their merits, will not the country begin at once to realize direct benefits from experiment stations and agricultural colleges which, under the present system, seem to be wanting?

In short, by a judicious extension of the civil service rules cannot the agricultural colleges be increased as to number of students and at the same time made a scientific rendezvous whence the Department of Agriculture may, with certainty, draft into its service the highest possibility and acquirements in specific lines of scientific research?"

AFTER GRADUATING FROM THE AGRICULTURAL COLLEGE.

Some one has been good enough to send me copies of the Agricultural Student from time to time, as they appeared. This paper is written and forwarded as an acknowledgement of the kindness. And just here, young men, I desire to say that, in my judgment, you are getting out an excellent little paper. It is filled with marrow. Some papers of the kind may be more flashy, but yours has the solidity of good sense about it. You are giving your readers bread, and not chaff and pictures.

When the young man graduates from the agricultural college he is all anxiety as to his future. And so it ought to be. The young man who is not thus anxious is a muffin, a lobster. With "foot in stirrup, hand on mane," many of them are eager at once to dash away into the thickest of the fray of life. They want to achieve. The ambition is a noble one.

But not so fast, young man. There are two ways of scaling a wall. One is to rush to its top regardless of the bayonets that may be there in strong hands to hurl down again. The other is to detect a place where no bayonets are seen. It is better to go a little slower and a little more surely than to make a false step that may bar the way to further promotion.

Of all the graduates who leave our agricultural colleges, the major portion must go again to the farm. And as years move on and students multiply, this will be the case more and more. Do not look upon this inevitable result as a hardship, young men. The farm is not necessarily a place in which the hopes of an ambitious graduate will be buried like the weeds which he sends to the bottom of the furrow. I don't know any door at the present time which stands so wide open to the ambitious graduate.

When the graduate returns to his farm, every eye in the neighborhood is fastened on him. I don't mean simply the eye of beautiful maiden, only, but rather the eye of every farmer and every farmer's boy. Here there is, or ought to be, a spur to ambition, a stimulus that should prove a stepping stone to achievement. It is, indeed, a critical time in the life of a graduate, and fortunate will it be for the graduate who keeps his head at such a time. Let him do better than his neighbors in crop production or in farm production of any kind, and the door of preferment will swing open to him. He will be accorded the place of a leader among men, and it will rest with himself very largely as to whether he shall halt anywhere in the ascent short of the legislature of his state, or, indeed, this side of congress.

At such a time the student stands at the avenue of many a highway to pre-

ferment. Many problems in agriculture are yet unwrought. Many truths are yet in the crucible of the refiner. Let the young graduate take up one of these and work it up and work it out, and if his work is wisely done his name will be enrolled among those who will live when oblivion has hid the masses in the mists of a dead past. You ask, young men, which of these will lead to immortality? I answer, any of them. Who yet knows all that is to be known about growing potatoes, or wheat, or barley, or peas, or, indeed, the best that can be known about them?

Who has yet ascertained all that is to be known about rearing a calf, a lamb, a pig or a colt? Who, indeed, has got far away from the threshold of such work? And who has told us all that is to be known about tilling the soil or sub-soil? Who, indeed, has dug up a fragmentary part of such information? The farm is the last place, young men, where a true man will be buried.

And then see the open door for publicity through the medium of the agricultural press. A man no sooner achieves in farming than the agricultural press are after him. They want such information. And thus it is that he may become a recognized authority, while the assistant to a college professor may walk on in the pathway of obscurity. See the publicity that is given to what is done by your own J. E. Wing, Waldo Brown, John M. Jamison, Alva Agee and many others whose names could be given.

But some graduates, of course, will take up the work of teachers and investigators in our agricultural colleges. The number must always be limited, however, from the very nature of things. And allow me to say to such aspirants, don't be too eager, young men, to rush into such positions. Life is a stern reality, and enduring success is not the result of accident. It is unfortunate when a young man accepts a position when

only half ready for it. A college graduate may be well up in his chemistry, and because of this he is offered a place as assistant to some chemist in a college of agriculture. His friends congratulate him on his preferment, and he congratulates himself. But is he quite sure that he has not entered upon the tramp, tramp of a treadmill that will prove to him an everlasting grind while he lives, and that will bury him beneath it when he dies, in the grave of oblivion? This may not follow, but it is likely to follow if he is not well up in what may be termed the practical, every-day work of the farm. Without such knowledge, he cannot apply the results of his findings as he otherwise would. It is not simply the men who achieve who engrave their names upon the enduring rocks in agricultural research, but the men who can so splice achievement unto the practical needs of the farmer, that the results obtained may help him.

It may be a hard thing to say to an ambitious graduate: Wait young man; don't be in a hurry to get away from the farm. Yet it may frequently be said with profit. Then, when he has shouldered responsibility a while, in the every-day management of the farm, he will come up a much better-equipped man than he was when he graduated. Of course, it is not affirmed that all graduates who are to teach or to experiment should go back to the farm, but it is claimed that if they must needs do so they should not go with reluctance, for the farm, after graduation, may prove a better school to them even than the college.

It is not easy for a young man, brilliant and full of ambition, to go back to the farm for a while when he has got his heart on the work of teaching. It may take a hero to do it, and more especially is some member of the class at once drops into a position. Young

men, if you will allow a personal reference, I would like to say to you that in my own college work, the knowledge that is of the most value to me is that which was picked up during long and toilsome years spent upon the farm.

Go on and prosper, young men. You are building better than you know. Don't worry if preferment does not come at once on graduation. The world is on the whole, just in the matter of recognition of worth. Prove yourselves worthy of a higher place, and sooner or later the invitation will come to step up onto a higher plane.

THOMAS SHAW.

THE SOCIETY FOR THE PROMOTION OF AGRICULTURAL SCIENCE.

The eighteenth annual meeting of the Society for the Promotion of Agricultural Science was held in Detroit, Mich., August 10 and 11. The attendance was not large, but the program was varied and interesting. The meetings were held in joint session with a section of the American Association for the Advancement of Science and with the Association of Economic Entomologists.

The election of officers for 1897-8 resulted as follows: President, Professor Byron D. Halsted, of the New Jersey Experiment Station; Secretary-Treasurer, Professor C. S. Plumb, Purdue University; third member of Executive Committee, Professor W. R. Lazenby.

Four new members were elected, viz.: Professor F. M. Webster, of the Ohio Experiment Station; Professor W. W. Rowlee, Cornell University; Dr. E. F. Smith, United States Department of Agriculture, and Professor B. W. Duggar, Cornell University. The membership is limited to 100, and is only secured by invitation on the part of the Society.

In executive session matters were discussed looking toward an enlarged scope and wide usefulness of the organization. The members present were unan-

imous that the Society is fast gaining in favor with college and station investigators, and as an effective means for the "promotion of agricultural science."

EXTENSION WORK IN RURAL SCHOOLS.

The following are extracts from a report upon Extension Work in Agriculture, by Professor L. H. Bailey, of Cornell University, Ithaca, New York, published as an appendix to the Report of the Committee on Rural Schools:

"The plan of effort in this teaching was to visit two schools during the day, one in the forenoon and one in the afternoon. The arrangements were made in advance with the school commissioner or the trustees, and the fact that the speakers were to be at the school house was ordinarily announced some days in advance, so that parents and friends could visit the school at that time if they chose. The teacher was, in every case, willing to omit the the regular exercises for an hour or two in order that our instructors might take up the work of object teaching with the children. The motive in this work was to find just how the pupils could be reached by means of object-lesson teaching, and just how much interest they would be likely to manifest in agricultural matters, in case it were ever found to be desirable to introduce such teaching as a part of the district school work. The instructor would first explain the reason for his coming, and give the school to understand that no new text books were for sale and that no new classes were to be required at the hands of the teacher. He then ordinarily took up the simple object lesson. It might be, in one place, a stalk of corn which he had in his hand, and the process of growth, which he would explain from seed to harvest; it might be, in another case, the habits or structure of a potato bug or some other insect; it might be, again, the reasons

why there were knots and knot-holes in the woodwork of the school house; it might be a very elementary talk on the different plant foods which are in the soil; it might be, in other cases, a very brief sketch, with charts, of some fungus; and so on. These exercises were uniformly well received by both the pupils and the teachers, and this work has, I think, awakened more inspiration in the minds of our instructor than any other attempt which we have yet made to reach the people. The teachers in the schools have, without exception, expressed themselves as willing and desirous of taking up some such simple exercises as a rest for the pupils, two or three times a week, if only they themselves could be instructed in the proper methods of carrying on the work. In order to afford this instruction to the teachers, we are now proposing to issue a series of experimental leaflets on object lessons, and place these in the hands of the teachers.

There is no doubt of the necessity for work of this kind with the children. The love or antipathy of the farm is engendered at a very early age in the minds of the young. This has been demonstrated in these October meetings, when we have asked those children who live on farms and who still desire to do so, to raise their hands, and we almost uniformly find that the number who desire to live on farms is far less than those who do actually live on them. With these children, ranging from six to fifteen years of age, the question of pecuniary profits upon the farm has appealed very little, but they are influenced directly by the environments under which they are living. These environments must be improved; and if they are, there is every reason to expect that children will love the country better than the city. We have thought, therefore, that it is eminently worth the while to instill the love of nature and the knowledge of a multitude of living things in the minds of the children. An important question here

arises: What is to be the future of our rural schools and of the agriculture of the state if the present generation, as seems so clearly indicated, is not satisfied with rural life and feels no interest in maintaining or contributing to the agricultural and educational interests of the state? While many more rural schoolhouses must become deserted, there are thousands of children already in our cities who are deprived of school advantages because adequate room does not exist for them to get into the schools of the city. The further problem also arises of the difficult economic questions to be met in our cities as a result of congestion of population. The standard of teaching has been much improved in New York state. It had been gratifying to meet so universally teachers who are not only well qualified, but who are doing excellent work in their schools, and who have the true teaching spirit. Our educational forces are thoroughly efficient and well equipped, but there is a need of different application of our school work in rural districts. The life of the district needs to be changed, and it can in no way be so effectively done as through our schools. The best work cannot be done in schools with an attendance of only half a dozen children. School districts will be forced to even greater consolidation in the future, and it would be desirable if families could also be consolidated, for it is the lack of social opportunity that is felt. It is the isolation of the farm home that the boy and girl dislike in these days of close communication and contact with the world which are brought about by steam and electricity. School grounds could be enlarged. They should furnish the opportunity for planting trees and shrubs; for the planting of seeds and growing of flowers; for having a nicely-kept lawn, and, in time, these things, with their influence, would extend to homes of children who do not

have them and bring with them those attractions and interest that make a home what it ought to be—pleasant and inviting in its surroundings.

All this work, as I have said, has been experimental—an attempt to discover the best method of teaching the people in agriculture. We believe that the most efficient means of elevating the ideals and practice of the rural communities are as follows, in approximately the order of fundamental importance: (1) The establishment of nature-study or object-lesson study, combined with field walks and incidental instruction in the principles of farm practice in the rural schools; (2) the establishment of correspondence instruction in connection with reading courses, binding together the University, the rural schools, and all rural literary or social societies; (3) itinerant or local experiment and investigation, made chiefly as object lessons to farmers, and not for the purpose, primarily, of discovering scientific facts; (4) the publication of reading bulletins which shall inspire a quickened appreciation of rural life, and which may be used as texts in rural societies and in the reading courses, and which shall prepare the way for the reading of the more extended literature in books; (5) the sending out of special agents as lecturers or teachers, or as investigators of special local difficulties, or as itinerant instructors in the Normal schools and before the training classes of the teachers' institutes; (6) the itinerant agricultural school, somewhat after the plan of our horticultural schools, which shall be equipped with the very best teachers, and which shall be given as rewards to the most intelligent and energetic communities.

All these agencies, to be most efficient, should be under the direction of a single bureau wholly removed from partisan political influence and intimately associated with investigational work in agriculture. Such a bureau should also have most intimate relations

with the Department of Public Instruction, for not only must the public schools be reached, but teachers must be trained. The teachers in our public schools are now of a high grade, and they will quickly seize opportunities to prepare themselves to teach the elements of rural science. There should be facilities at the disposal of every Normal school in the state, whereby it may receive courses of lectures upon rural subjects from teachers of recognized ability, and teaching helps in the way of expositor leaflets should be placed in the hands of every teacher who desires them. All this work of carrying the modern university extension impulse to the country is too important and too fundamental to be confined to any one particular agricultural interest or to any one district of the state; and it is a work, too, which should be treated as a teaching extension and not as an experiment-station extension.

In conclusion, I must say that the farms, as a whole, are willing and anxious for education. They are difficult to reach because they have not been well taught, not because they are unwilling to learn. It is astonishing, as one thinks of it, how scant and poor has been the teaching which has even a remote relation to the tilling of the soil; and many of our rural books seem not to have been born of any real sympathy with the farmer or any just appreciation of his environments. Just as soon as our educational methods are adapted to the farmer's needs, and are born of a love of farm life and are inspired with patriotism, will the rural districts begin to rise in irresistible power.

ASSOCIATION OF AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

The annual convention of the Agricultural Colleges and Experiment Sta-

tions, which was recently held in Minneapolis, was an important gathering of earnest workers in the cause of practical and scientific agriculture. Nearly two hundred delegates and visitors were present, representing nearly every state and territory in the Union, besides Canada and Great Britain.

It was a body of earnest, thoughtful men, composed largely of the presidents and deans of the various Agricultural colleges and the directors of the different experiment stations.

Ohio was represented by President Canfield, Secretary Cope and Professors Hunt and Lazenby, of the State University, and Director Thorne and Trustee Robinson, of the Experiment Station.

Among the addresses given there were several by Professor Henry E. Armstrong, of London, England. Professor Armstrong is chemist to the Lawe's Experiment Station at Rothamsted, and came as a special delegate from the United Kingdom.

Among some of the more important reports by standing committees, was one on "Seed Testing," by Professor Lazenby, and one on "Courses of Study in Agriculture," by Dr. True, of the Office of Experiment Stations, Washington.

The annual address of President Fairchild, of Kansas, was interesting and instructive. He gave the history, or rather evolution of agricultural education during the past forty years. It began with the labors of the late Professor N. S. Townshend, in Cleveland, about half a century ago.

At the close of the business session the delegates visited the Agricultural School and Experiment Station of Minnesota, at St. Anthony's Park, and then, through the generous invitation of President Hill, of the Great Northern railway, took a trip through the Red River Valley and visited the Agricultural College and Experiment Station of North Dakota.

AGRICULTURE AND THE DISTRIBUTION OF WEALTH IN THE UNITED STATES.

In 1790 3.35 per cent. of the population of the United States lived in cities of 8,000 or over; while in 1880 the percentage was 22.57, and in 1890 it had risen to 29.2.

From 1880 to 1890, while the population gained 24.86 per cent., that of the cities gained 61 per cent. and the farming population 15 per cent. Of every 100 increase of population during the same decade, only an average of 33 made their homes in the country or in villages of less than 1000 inhabitants. The other 67 resided in cities over 1000 in population.

Such facts are pointed to as evidence that American agriculture is unprofitable and in process of decline. That such a conclusion is necessary, however, does not follow, as we shall see later.

We find by the census reports that the total wealth of the United States in 1860, was \$16,160,000,000; in 1880, \$43,642,000,000; in 1890, \$65,037,000,000. We all know that city wealth of all kinds has advanced the past three decades in a wonderful degree, and the assumption raised is this: Have not other industries increased at the expense of the agricultural industry. Now then, if the number of farmers in 1860 was just the same as in 1890, and the material wealth made in 1860 was just the same as in 1890, could there be any decline in agricultural affairs? In fact, other industries have rendered a great saving in agricultural work, consequently the net resources of the farms in 1890, if just the same number and just the same wealth produced, would be a margin in favor of the farmer for 1890. But now, what are the facts?

In 1850, the total rural population was 56 per cent; 1860, 49 per cent; 1870, 37 per cent.; 1880, 28 per cent.;

1890, 25 per cent. The rural wealth of 1860 was \$7,980,000,000; 1870, \$8,900,000,000; 1880, \$12,104,000,000; 1890, \$15,982,000,000; or in two decades the rural wealth has doubled, and the per capita product of the farm in 1890 was more than the per capita product in 1870, because the material wealth increased in greater proportion than the rural population.

In 1890 there was employed in capital for agriculture, \$15,982,000,000; in manufactures, but \$6,525,000,000, yet the net value of product for agriculture was a little over \$2,460,000,000, and manufacturing something over \$4,210,000,000. Now then, if the capital employed in manufactures, less than half of the amount for agriculture, yielded a net product value of \$4,000,000,000; on the same basis, the agricultural capital should have yielded fully \$9,000,000,000, whereas, it yielded a net product of but 2 1-2 billions. These figures tell their own story. I know full well that steam, division of labor and concentration of work enables the manufacturer and miner to create a per capita product greater than what the farm can. But not this vast difference.

The data just given show the total wealth of the rural people. The total wealth includes the real estate, fences, improvements, live stock and such. Now in the present day we hear a great deal about decline in value of farms. I know it and admit it. But in no case, beyond the exception, has it ever fallen below 25 per cent. This is high. But shall we stop here. Does not the valuation of manufacturing concerns deteriorate in value in numerous cases as much as 75 per cent., and even more? But then don't forget that though it does deteriorate in some places, it is increasing in value in other places. Lands are subject to the same conditions and laws as other industries. Ohio, for instance: Land in 1860, I believe, was valued at \$48 per acre, now \$45. Not very much difference, is there?

The development of modern transportation has tended to spread agriculture in new fields. The American railway system, spread to every part of the country, has contributed towards increasing marvelously the agricultural wealth.

The value of farm lands, though decreasing in many places, is rising in others, and today is scarcely below the normal. The conclusion is warranted that the economic condition of the agricultural interests is not on any natural decline, and the depression is not due to the assumed fact that other industries have been benefited at the expense of the agricultural industry.

FREE SCHOLARSHIP, OR HOW HE GOT TO COLLEGE.

It was spring time. The buds were unfolding and the blossoms peeped in the warm sunshine; the tiny bees would light upon them to taint their breath; the fields were verdant with growing wheat and grass; the school children were gala with the return of spring, and their shouts of joy were heard in street and yard as they frolicked about happy in the thoughts of new scenes and pleasures.

The school for the day had just closed. Some of the scholars hurried home, while others lingered on the way.

Passing down the street with hurried step went Cortus Peyton. He stopped at the postoffice to get the mail. Coming out he was met by several of his boy friends who proposed going at once to the reservoir, fishing. The proposition was tempting but with a sudden thought he said: "No, boys; I can't go tonight. I promised mother to work in the garden."

"Oh," replied George Barcus, "you can do that any time. Why just think of the fun we will have. Fish are biting fine these nights."

"Come on, Cortus," says Tommy Smith, "Lee Sayer and George Baker and a whole lot of other boys are going."

"No, boys," replied Cortus; "I won't go; you may coax me or laugh at me, but I've promised mother and I know she is waiting for me now. So good-bye;" and with a parting smile, he started for home.

But a few minutes passed until Cortus was home, decked in his working clothes, and then went to the garden, where his mother was waiting for him. The sun was sinking in the west and at this time especially was it a pleasure for Cortus to work in the garden.

"Mother," says Cortus, "I have been reading in a book I got from the library about Garfield; how, though a poor boy, he worked his way through college and at last became president of our country."

"Well, is that all you do at school, Cortus? How many books have you read?" asked his mother.

"Nearly every one," said Cortus. "When I started to the High school I had read but little, and so I started to read those books, and now in my last year I hope to read every one of those books by commencement time."

And so the conversation ran on until darkness had settled down and Cortus and his mother went in the house, and soon the whole family had gathered in. Cortus was soon busy with his lessons for the next day. He was decidedly the best in his class, and he did the most of his studying at night and during school hours busied himself in reading or getting into mischief.

The springtime passed on. Cortus and his brother attended school as usual. Their father was rather aged and unable to do much work on the farm, so the greater part of it rested on the boys. The farm was small and the boys managed to do the work mornings and evenings and on Saturdays. Everything went along as usual and commencement came. Cortus had worked on his oration for several weeks, and night and morning delivered it aloud under the old railroad trestle, or in the barn or in the

open field to the cows and horses. Naturally gifted with a pleasing voice, he gave an oration that night as the old town had never heard before.

Going home that night was good old Mr. Peyton and his faithful wife. Their happiness was at its height. Cortus had carried off the honors, and these two good old people could hardly contain themselves.

"I knew it," said Mother Peyton, "Cortus is just like other boys, but when it comes to books none are his equal."

"I wish we could send him to college," said Cortus' father, "but you know, wife, times are so hard and we are so much in debt and we are both growing old. I don't see how we can do it."

And as they lay down to sleep that night they were despondent, for they knew there were no hopes of their being able to send Cortus to college.

The days passed on. Commencement over, summer came with summer's work. The corn was growing fast. Every day Cortus and his brother were hard at work on the old farm.

Cortus was a great reader, as we have heard before; catalogues and books and papers. He was instilled with a thirst of knowledge, and never a day passed but that he had spent a part of it in reading and study.

"Mark," said Cortus one night, "let us spend what little money we have in books. We can buy fifteen or twenty small books, such as Pope's Essay on Man, Motives of Reading, Half Hours With Authors, etc., that will be exceedingly interesting to us."

"Agreed," said Mark.

The books were sent for and soon arrived, to the great delight of the boys. Never a day passed but that Cortus had one of these books or a pamphlet of some sort in his pocket. When plowing corn or harrowing, he read while the horses rested.

One day in July came. Well does Cortus remember it. He and his brother were plowing corn. The afternoon's

sun was hot, horses and boys were tired and well earned was the rest that they took when the rows were finished. The boys sat down in a fence corner to rest. And sitting there, Cortus said: "Mark, the old home is nice. I love to work on the old farm, but I do long for an education. My soul is athirst for it. I am going to have an education myself."

"How are you going to get it," Mark eagerly asked.

"I am going to earn it. Garfield earned his. Webster earned his, and almost all our great men earned their education. They proved that where there's a will there's a way. I can do the same."

Mark was not at all surprised and asked when Cortus intended doing this. With a sympathetic look and almost with tears in his eyes, Cortus replied: "I have a notion to try to go to college this fall."

Now surprised, his brother looked up and said: "Brother mine, where do you expect to go. It takes money to go to college and you haven't five dollars to your name."

"Ah, that's the point," said Cortus. "I have not any money, but I have good health and can work. I am going to work my way through college."

"But where can you go and thus work your way?" asked Mark.

"I received a catalogue the other day," said Cortus, "of the Ohio State University—you know that is the place where Dick Turner went till he died—and I read the catalogue all through. It said that many of the students, by working on the farm, could pay a great part or all of their expenses, and at the same time carry on their work in college."

"Do they give work to everybody up there?"

"No; they can't do that, but there are not a great number who want work, and the catalogue says that energetic and ambitious boys have no trouble to get all the work they want. And that isn't all,

Mark. The Ohio State University entitles each county of the state to appoint a young man or young woman to a free scholarship in agriculture; and if I got this appointment I could go two years and it wouldn't cost me anything but my living expenses and books. Just wait—I have here in my pants pockets a circular describing all about what they study and about the scholarships."

"Who sent you this circular, Cortus?"

"Why I saw a notice in one of our papers about it, and I wrote to Dean Thomas F. Hunt, Columbus, Ohio, to send me one of these catalogues. Wasn't it kind in him? Now just turn to page 6, I think it is, and read for yourself about those free scholarships; yes, that is the page; read it, now."

Mark, by this time almost as much enthused as Cortus, read aloud the notice about the scholarships.

FREE SCHOLARSHIP IN AGRICULTURE.

A free scholarship good for the short course in agriculture or for the Preparatory and Freshman years of the four-year course in Agriculture or Horticulture is granted to one student annually from each county in Ohio. Each scholarship is valid two years from its grantal and covers all college dues (incidental and laboratory fees), but the person appointed to receive its benefits is subject to all the other conditions prescribed for admission to the Course. The appointments are made by the county boards of agriculture, and are not transferable by the appointees. To learn whether the scholarship of a given county for the current year has been granted, inquiries should be addressed to the Secretary or President of the County Agricultural Society. For further information concerning these scholarships, inquiries should be addressed to Prof. Thomas F. Hunt, Columbus, Ohio.

"It says that the appointment is made by the County Agricultural Society. I am going over and see the Secretary just as soon as we go in tonight. Now,

read further, Mark, what it says about self-support." Mark eagerly read as follows:

SELF-SUPPORT.

There is a large amount of work on the University farm and campus and in the garden, orchard and green houses, which can be done by students, and for which they are paid at current rates for such labor. By this means, together with what can be earned by steady labor during the summer vacations, a considerable number of students defray all their expenses.

Preference is given to students who are willing to devote a certain number of hours each day to the work assigned.

Work cannot be promised to all applicants, and is not guaranteed to any.

Applications for employment should be made to Charles W. Burkett, assistant in agriculture. Labor blanks will be furnished upon request.

"See there," exclaimed Cortus; "that is the way I am going to get my education. I am going to earn it. It will be hard to leave you and father and mother, but you know, Mark, the time will come when we all must separate, and you won't care, will you, if I make this attempt to get an education."

"No, Cortus; every wish of mine is with you. A boy with as brave a heart as you will be sure to succeed."

An approaching storm drove the boys to the barn, and putting the horses away, Cortus hurried to the house and, still thinking of his determination, he wrote to the officers for the scholarship, and at the same time to the University, asking if they could give him work while attending school. Then picking up the catalogue he read it again, and pondered over the subjects he would have to study.

Evening came before he was aware. But that was a great day to Cortus Peyton, and as he closed his eyes that night a happier and more anxious boy never lived.

(CONCLUDED IN NEXT ISSUE.)

THE AMERICAN POMOLOGICAL SOCIETY.

The regular biennial meeting of the American Pomological Society will be held in Columbus September 1, 2 and 3. This is a grand national organization, the only one of its kind in America, and its proceedings cannot fail to be of great value to all interested in horticulture.

A joint meeting of the Pomological Society and Ohio State Horticultural Society will be held in the Masonic Cathedral, on Third street, Wednesday evening, September 1. Addresses of welcome will be made by Governor Bushnell and Mayor Black, with responses by President P. J. Berckmans and the Hon. F. H. Albaugh. Every one interested is most cordially invited to be present.

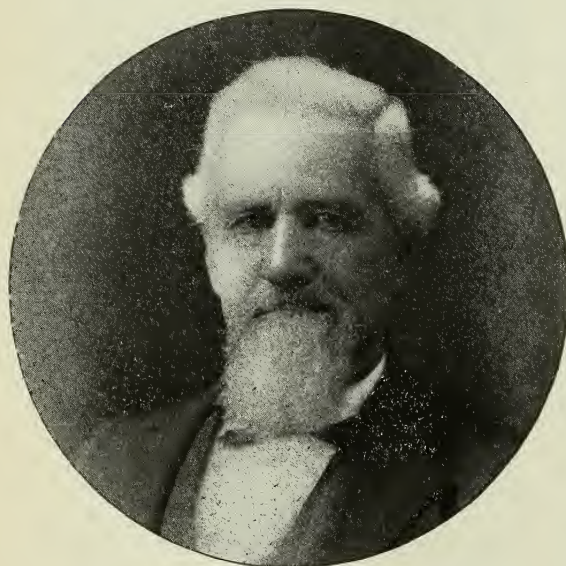
OHIO'S FAMOUS HERD—HOLSTEIN-FRESIAN CATTLE.

Located at Columbus, Ohio, is one of the largest herds of this breed of cattle in America. The owners, Messrs. W. B. Smith and E. F. Smith, have taken the greatest pains in securing one

of the finest herds of Holstein-Fresians in existence. This breed of cattle is quite well known, having been bred for more than a thousand years in one direction, in milk and butter, and how well they have succeeded can best be told by their records at pail and churn, and the ene-



ELDON F. SMITH.



WILLIAM B. SMITH.

mies they have made of other breeds. This breed has taken first premium every year for ten years for butter or solids at the Ohio State Fair.

This particular herd is the result of a careful selection. In reaching the top, as this firm has, five herds were purchased outright. Five other herds, each containing over 30 head, were topped. Individuals, of superior quality and type, were bought at private and public sale.

As to prizes, this herd in 1895 won at Ohio, Indiana and Michigan State Fairs twenty-four out of thirty-four first prizes.

In 1896 nine out of eleven firsts were won. These prizes alone are enough to show the excellence of the herd.

The State Fair record for greatest amount of butter fat in one day is held by Tolena Fairmont, an individual of

this herd, who gave 2.44 pounds in one day.

This entire herd is dehorned. Instead of mutilating, says Mr. Smith, it improved their looks and their docility. Cows now come in without a scar or injured udder, and it is the most humane treatment practiced. Speaking of their product for sale, they have this to say:

We have no cattle to sell except calves.

First—We have no room for surplus cattle.

Second—We have no market for surplus milk.

Third—We are inside city limits; acreage limited.

Fourth—Feed all to buy.

Fifth—Advertising comes high. We sell our calves because we have no room, no skim milk, no arrangement for feeding; whole milk does not raise as desirable a calf, and costs too much.

So we put all our calves on the market seven to ten days old. These calves can be purchased and raised to cost considerably less than it does us; and, perhaps, a better calf.

We raise no bull calves, nor do we put any out to be raised. What are not sold for breeders are castrated.

We guarantee our calves to be first-class.

Both these men are public-spirited, industrious, up-to-date. They are indefatigable workers for the advancement of the Holstein-Friesian breed, and they have a herd today unequalled by any in America.

NOTES.

Professor Paul Fischer, who completed the course in agriculture and graduated from the State University in 1891, has been elected professor of veterinary science in the Kansas Agricultural College. For two years past Dr. Fischer has been professor of agriculture and veterinary science in the State Agricultural College at Logan, Utah.

Professor W. S. Deval, one of the early agricultural graduates of the University, is attending the State Fair and the meeting of the American Pomological Society. Professor Deval is now professor of agriculture in the Agricultural College of Arizona. He is also director of the Experiment Station.

After an interval of two years Professor Moses Craig has been re-elected to the chair of Botany and Theoretical Horticulture in the Oregon Agricultural College; and is also botanist to the Experiment Station. Professor Craig graduated from the Ohio State University in 1889, and spent the following year at Cornell, where he secured the M. S. degree. Since then he has been doing special work in botany and horticulture, spending one year at the University of California. In 1896 he was granted the degree of Master of Science in Horticulture and Forestry from the State University. The Student is pleased to hear of Professor Craig's good fortune, because it is well earned.

Among the representatives of the State University who attended the meeting of the American Association for the Advancement of Science, recently in the city of Detroit, were Professors Orton, Lord, Lazenby, Kellicott, Bohannon and Boyd; also Assistants Evans and Flynn.

Professor Orton presided over the sessions of the American Society of Geologists, and Professor Lazenby over those of the Society for the Promotion of Agricultural Science. Professor Kellicott was honored by being elected General Secretary of the Association.

Another wellknown State University graduate has become a benedict. We refer to Professor J. Hayes Bone, of the Agricultural College of Oklahoma. He was married to Miss Kate Bough, of Farmers' Institute, Indiana, on Thursday, August 12, 1897. The Student congratulates Professor Bone and extends to him and his chosen life companion its best wishes.

The many friends of Mr. John F. Cunningham, '97, will be pleased to learn that he has been granted a Fellowship in the Department of Horticulture and Forestry. This appointment will enable Mr. Cunningham to continue his studies and at the same time be of service as an assistant in the department. Professor Lazenby is to be congratulated not only upon the establishment of this Fellowship, but also because it is so worthily bestowed.

Mr. P. L. Pfarr, '96, has been writing some interesting letters for the Ohio Farmer during the past summer. These letters are descriptive of Mr. Pfarr's travels through Great Britain, France, Germany and Holland, and contain many interesting observations upon the agriculture of these countries.

THE PRINCIPLES OF FRUIT GROWING.

One of the most valuable books for the farmer, recently issued, is the Principles of Fruit Growing, by Professor Bailey, of Cornell University. It is a practical handbook, simple, clear-cut and up-to-date.

The book clearly treats in a plain, readable manner, so that all can read and understand the underlying principles and questions of fruit growing, which are common to most or all of the various fruits.

It is unquestionably the best book ever written on the culture and raising of fruits. It is strictly scientific, which means up-to-date practice. It answers those questions and tells the farmer about just those things he wants to know, and in an interesting manner. Questions like the outlook of fruit growing; battling with frosts; the reasons why fruit lands should be tilled

and cultivated; their fertilization; the care of orchards; why orchards are barren; the diseases and insects affecting them; and a most complete treatise upon picking, packing, marketing and shipping fruits. The Agricultural Student recommends it to every farmer and fruit grower. The MacMillan Company, New York City, is the publishing company. The book will be sent postpaid to any address for \$1.25.

"Half Hours in Field and Forest," by the Rev. J. G. Wood, has just been issued by the Thomas Whittaker Pub. House, New York. It is a charming story of nature, and tells us in such a pleasant and happy way of the habits of our "every-day" birds. A country walk is always associated in our minds with the songs of birds, and here we have in this book, a continued history sung by a close observer of the beautiful little singers and actors all about us. We live and move about but fail to see much that is right before our eyes, simply because we do not know how to observe. Mr. Wood tells us how to observe; about being in the fields with the birds; early morning in the trees; among the nests in the spring-time; how the birds live in the summer-time, and the winter-time; whence they come and whither they go; the winter and the summer sleepers. The work is a history as well as a story, and almost as entertaining as nature itself. Every one interested in the garden or the forest, or has a spark of love of nature in his soul, should have this book. It is intensely interesting and flows with practical observation. The book contains about 400 pages and 114 illustrations. It can be obtained from the publisher, Thomas Whittaker, New York City, or A. H. Smythe, Bookseller, Columbus, O., for \$1.25.

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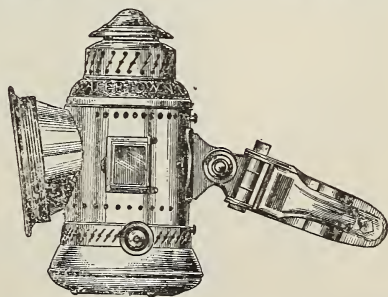
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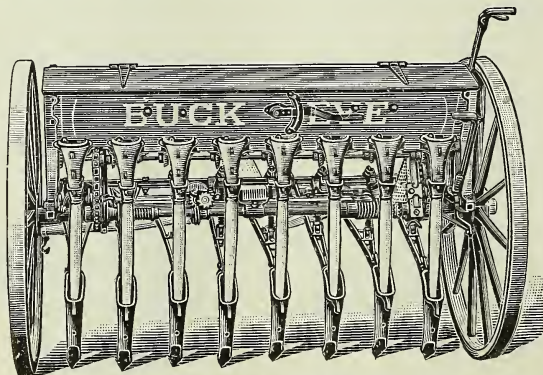
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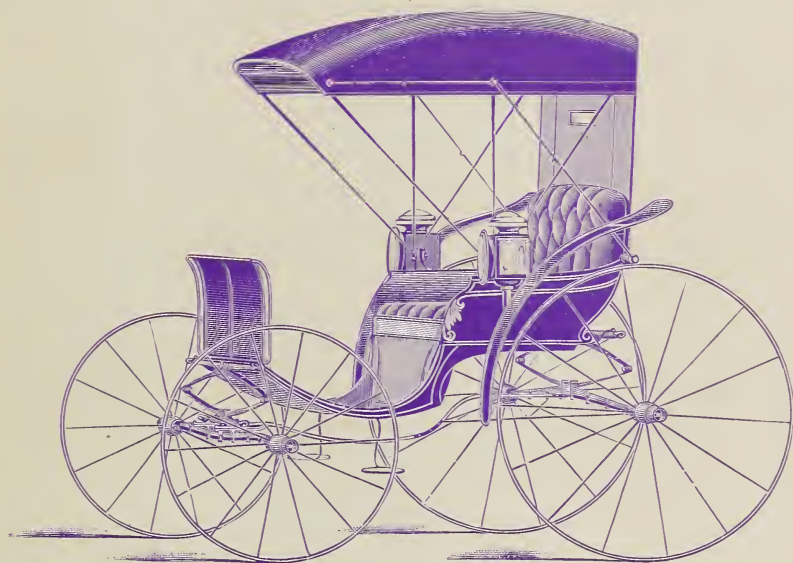
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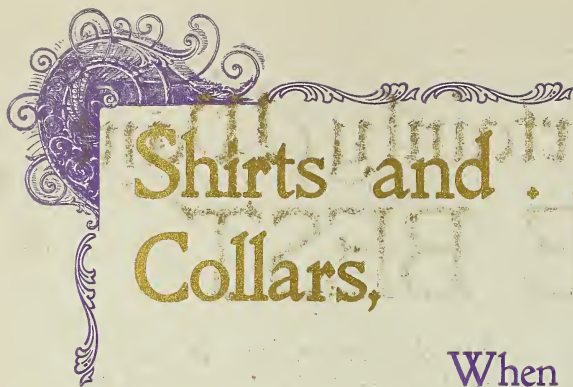
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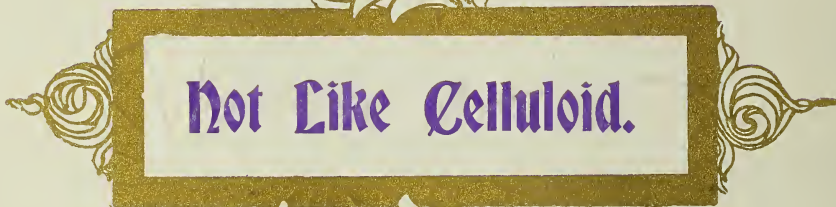


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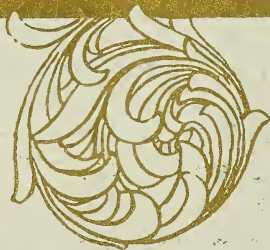


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